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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

LUDLOW, JAN M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1743

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DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,172

Applicant(s)

SHALON ET AL

Examiner

Jan M. Ludlow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- ☐ Interview Summary (PTO-413) Paper No(s) ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

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1. Claims 1-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, last 2 lines "the bores" lacks antecedence and "the system prints..." is an unclear structural limitation in that it recites a method step. The examiner suggests reciting a controller or other structure for performing the method/function.

2. Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. An embodiment in which both ends of the capillary are exposed to atmosphere and a non-capillary reservoir is included in the printing device is not enabled because in the closest embodiment disclosed, the upper end of the capillary is in fluid communication with the non-capillary reservoir, which is exposed to atmosphere (see, e.g., Figs. 7-9).

3. Claims 1-25, 28-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feygin. (5,957,167)

Feygin teaches a method and apparatus for printing biological substances on a substrate. A capillary tube with a slit in it (slit not precluded by the instant claims) can be decelerated to print a droplet (col. 3, line 23). A spring biasing device is shown in Figure 3. Plural dispensing members and automated operation are taught (col. 5, lines 55-65). With respect to reservoirs, the upper end of the capillary is a reservoir;

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alternatively, the source well into which the capillary device is dipped for loading is a non-capillary reservoir in fluid contact with the capillary during loading.

Feygin fails to explicitly teach open capillary bore ends open to atmosphere.

It would have been obvious to provide the capillary tube embodiment in the device of Figure 6 in order in order to deliver fluids as taught by Feygin. Note that a capillary tube is inherently open at both ends and the device of Figure 6 does not cover the end of the printing tube. It would have been obvious to provide positioners and other known moving expedients in order to automate the system as taught by Feygin. With respect to "wire bonding capillary" in that applicant has disclosed no special properties of wire bonding capillaries defining over ordinary capillaries, it is the examiner's position that the capillaries of Feygin are structurally capable of use as wire bonding capillaries and/or constitute wire bonding capillaries to the extent the term is definite. Element 618 constitutes the instant nozzle surface. It would have been obvious to make the gang of devices of a single material for reproducibility of delivery, and of known materials for their known strength and inertness. It would have been obvious to space the devices for insertion into known well plates. It would have been obvious to make the heads replaceable in order to remove damaged or contaminated heads as was known in the printer and pipetting art.

1. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feygin as applied to claims 1-25, 28-39 above and further in view of Thomas.

Feygin fails to teach the preservative.

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Thomas teaches a reagent transfer device having a resilient rubber pad which is abutted with the transfer device outlet opening to prevent evaporation from the device during storage (col. 3, lines 59-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an evaporation prevention device such as a rubber pad for abutting the capillary openings in the device of Feygin in order to prevent evaporation of reagents from the openings during storage as taught by Thomas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jan M. Ludlow whose telephone number is (703) 308-4039. The examiner can normally be reached on Monday-Thursday, 11:30 am - 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (703) 308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jan M. Ludlow
Primary Examiner
Art Unit 1743

jml
June 30, 2003